TITLE OF THE INVENTION

MEDIA AND METHOD OF UPDATING COMMODITY CATALOG INFORMATION

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of Korean Application No. 00-27500, filed May 22, 2000, in the Korean Industrial Property Office, the disclosure of which is incorporated herein by reference.

BACKGROUND OF THE INVENTION

Field of the Invention

[0002] The present invention relates to a readable and/ or writeable media and a method of using the same, and more particularly, to a media for editing/updating the latest commodity information online, and a method of so doing.

Description of the Related Art

[0003] When commodities are sold in catalogs, the catalogs need to be continuously updated to introduce new commodities. However, consumers purchase commodities by referring to the catalogs, regardless of whether they have been updated.

[0004] There are basically two systems used conventionally to allow consumers to purchase products; one is an offline purchasing system, and the other is an online purchasing system. According to the offline purchasing system, a supplier provides a commodity catalog, usually in the form of a book-like paper catalog, to consumers, and the consumers select items to be purchased by referring to the catalog. Then, the consumers

visit an actual store where commodities are sold to purchase their desired commodity items, pay for the purchased items, and then carry the purchased items home.

[0005] Several problems with this method are that necessary commodities may not be available from the consumers' visited store, and the commodity catalog information may not be offered opportunely. Also, pricing updates may not be done properly. Further, the consumer must be involved in almost all of the purchase processes in person.

[0006] It is also similarly known to order the commodities using a telephone, or using the mail, where the ordered commodities are delivered using the mail. These mail order methods present similar problems with regard to availability and lack of timely updated commodity catalog information, except that the consumer need not actually visit the store.

[0007] According to the online purchasing system, the consumers access the Internet, browse virtual shopping malls to retrieve their desired commodities, and then order their desired commodities. The consumers then make a payment associated with the ordered commodities using wire transfers or credit cards, the identities of the consumers are authenticated, and the merchant checks the credit cards for approval. Then, the consumers' ordered items are then transported to the consumers.

[0008] When using the online purchasing system, the consumers must access the network to sort through virtual shopping malls or a large number of products to order the products they want to purchase, which is a very cumbersome process. Other problems with this method include the fact that it is not easy to authenticate the consumer's identity, and further that consumer information may be divulged in an unsecured status. Also, consumer information may be intentionally distributed or sold by unreliable shopping malls.

SUMMARY OF THE INVENTION

[0009] To solve the above and other problems, it is an object of the present invention to provide a medium for supplying consumers with updated commodity information at any time.

[0010] It is another object of the present invention to provide a commodity information updating method of supplying consumers with updated commodity information at any time.

[0011] Additional objects and advantages of the invention will be set forth in part in the description which follows and, in part, will be obvious from the description, or may be learned by practice of the invention.

[0012] Accordingly, to achieve these and other objects according to an embodiment of the present invention, an optical recording/reproducing medium has a read-only area in which commodity information is written, and a writeable area in which predetermined commodity information provided by a server are allowed to be updated and written.

[0013] According to another aspect of the present invention, the read-only area is divided into a first area in which predetermined commodity information of a manufacture time when the data is written to the medium, and a second area in which a vendor's encrypted key is written.

[0014] According to yet another aspect of the present invention, the writeable area is divided into a first area in which a commodity information update date is written, a second

area in which updated commodity information is written, a third area in which commodity purchase information is written, and a fourth area for a user's private information.

[0015] According to still another aspect of the present invention, the writeable area is an area in which predetermined information is repeatedly written by the server and the user.

[0016] According to a further embodiment of the present invention, a method of updating commodity information recorded on a medium in a writeable or readable apparatus comprising, if the medium is mounted on the apparatus, accessing a commodity information server corresponding to the commodity information written on the medium through a computer network, if a link is set up with the corresponding commodity information server, checking whether there is a commodity item to be updated/edited in the commodity information written on a first predetermined area of the medium, if there is a commodity item to be updated/edited, transmitting the corresponding commodity information from the commodity information server to the apparatus, and writing the transmitted commodity information on a rewriteable area of the medium.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] The above objects and advantages of the present invention will become more apparent by describing in detail a preferred embodiment thereof with reference to the attached drawings in which:

FIG. 1 is a block diagram of a system for implementing a commodity information updating method according to an embodiment of the present invention; and

FIG. 2 is a flow chart illustrating a method of updating commodity information according to an embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0018] Reference will now be made in detail to the present preferred embodiments of the present invention, examples of which are illustrated in the accompanying drawings, wherein like reference numerals refer to the like elements throughout. The embodiments are described below in order to explain the present invention by referring to the figures.

[0019] FIG. 1 is a block diagram of a system for implementing a commodity catalog information updating method according to an embodiment of the present invention. The system includes a computer network 10, a user terminal 12 that is linked to the computer network 10 and receives updated/edited data, a commodity information server 14 to transmit the updated/edited data to the user terminal 12, and an updateable optical disk 16.

[0020] According to the shown embodiment, the user terminal 12 includes a network interfacing device 12-1 which allows access the computer network 10, an internal/external input device 12-2 to receive input from a user, an internal/external output device 12-3 to output necessary information to an internal/external display device such as a CRT display device, printer, etc. (not shown), an encryption (security) device 12-4 to perform identity authentication and cryptographic communication, and an updateable optical disk recording/reproduction device 12-5 for reading/writing from/to the optical disk 16.

[0021] The commodity information server 14 includes a server 14-1 and a server database 14-2. The server 14-1 includes a network server 14-11 to access the computer network 10, an electronic commerce (payment processing) server 14-13, and an encryption server 14-12. The server database 14-2 includes data and various kinds of information by which the optical disk 16 can be updated/edited.

[0022] The optical disk 16 includes a non-writeable, read-only area 16-1 and a writeable (updateable or rewriteable) area 16-2 where a write operation can be performed.

[0023] The operation of the system shown in FIG. 1 will now be described in detail.

[0024] The computer network 10 transmits/receives data to/from computers. The computer network can be an Ethernet, a Local Area Network (LAN), a Metropolitan Area Network (MAN), a WAN (Wide Area Network), a wireless computer network, and/or preferably the Internet.

[0025] The user terminal 12 is a desktop computer or a personal computer (PC), and is either a general-purpose computer or a special-purpose computer. The user terminal 12 allows access to the computer network 10, and the network interfacing device 12-1 transmits and/or receives data through the computer network 10. The internal/external input device 12-2 (which can be a keyboard, a remote controller, a mouse or any other device allowing input into the user terminal 12) inputs an instruction or data supplied by the user to the user terminal 12. The internal/external output device 12-3 (which includes an internal or external LCD or TV, a printer or any other device by which data can be output from the user terminal) provides data requested by the user in the form of a hard copy, a file or graphics. The encryption device 12-4 authenticates the user's identity and executes cryptographic communication, together with the encryption server 14-12 of the commodity information server 14.

[0026] The updateable optical disk recording/reproducing device 12-5 records or reproduces data on or from the editable/editable optical disk 16. It is understood that other forms of media might be used, such as magnetic media, magneto-optical media, a combination of RAM and ROM, or any other media allowing storage and retrieval of information.

[0027] The updateable optical disk recording/reproducing device 12-5 reproduces data from the read-only area 16-1 or the writeable (updateable) area 16-2 of the optical disk 16, or records the updated/edited data received through the network interfacing device 12-1 on the writeable area 16-2 of the optical disk 16. In the read-only area 16-1 of the optical disk 16, non-erasable, read-only data is written as found in a compact disk read-only memory (CD-ROM) or a digital versatile disk read-only memory (such as DVD-ROM). In the writeable area 16-2, data is erasable or writeable as found in rewriteable compact disks (such as CD-RW) or rewriteable digital versatile disks (such as DVD-RW).

[0028] Further, while not shown, it is understood that the writeable area 16-2 could be or have a writeable area that is not rewriteable is found in optical disks (such as CD-R) or writeable digital versatile disks (such as DVD-R). Such a writeable area might be used to permanently a user's personal information, purchase records, or other information that is written once to the optical disk 16 and needs to be permanently stored.

[0029] A contents vendor provides the optical disk 16 to the user. The optical disk 16 can include contents other than commodity information, such as Karaoke, an encyclopedia, navigation information, music, software, where an update would be in the form of commodities related to these contents such as new movies scenes, new paraphernalia, updated music remixes, or software module add-ons.

[0030] The commodity catalog data of the time of manufacture of the optical disk 16 and a commodity vendor encrypted key are written in the read-only area 16-1. The last update date data of the optical disk 16, updated commodity catalog data, purchase file data, security data, and/or the consumer's private data are written in the writeable area 16-2. The writeable area 16-2 is an area that can be written on either by the commodity information server 14 and/or the user.

[0031] While not shown, it is understood that the contents provider could provide the optical disk 16 together with the user terminal 12 such that the optical disk 16 is not-separately distributed from the user terminal 12 such as in personal digital assistants (PDAs), firmware in computers, cell-phones, or other items in which the user terminal 12 is itself distributed.

[0032] The commodity information server 14 is a server known in the computer-related field and basically functions as a web server to transmit and/or receive data over the Internet. The server commodity information 14 includes known hardware and software for communication with the user terminal 12. The commodity information server 14 allows the user terminal 12 to be accessed through the computer network 10. The network server 14-11 transmits the updated/edited data, the electronic commerce server 14-13 supports electronic commerce, and the encryption server 14-12 processes user authentication together with the encryption device 12-4 of the user terminal 12. The server database 14-2 contains the latest updateable/editable data, security data, consumer information or purchase information, and provides the same to the user terminal 12 through the computer network 10.

[0033] The updateable optical disk 16, which has an initial database and an encrypted key (encrypted key for server) to be used by the commodity information server 14, is first distributed to the user. The user mounts the optical disk 16 on the user terminal 12 for use, as shown in FIG. 1. The user terminal 12 can be accessed through the computer network 10, which allows access to the server 14 to receive the updated/edited data to be written on the optical disk 16.

[0034] The database (i.e., the commodity data in the read only area 16-1) is distributed on the optical disk 16 after user registration that allows use by the user. Prior to use, the last update date of the commodity catalog information is received from the commodity information server 14 and compared with the last update date written on the writeable area

16-2 of the optical disk 16. If the dates are different (i.e., if updated/edited data exists), the necessary commodity catalog data to be updated/edited is transmitted from the commodity information server 14 and automatically written on the writeable area 16-2 of the optical disk 16. By doing so, newly added commodities, changed prices, changed commodity inventory, changed commodity functions and/or status can be updated.

[0035] Therefore, the user can retrieve the latest commodity catalog information at any time through the optical disk 16 when accessing the computer network 10, and can purchase the desired commodity according to the commodity catalog information. During the user's retrieval of commodity catalog information, the user is offered the updated commodity catalog information and the non-updated commodity catalog information, which are distinctively marked with different colors or blocks so that the user can conveniently retrieve the commodity catalog information.

[0036] FIG. 2 is a flow diagram showing the operation of a method of updating an optical disk for electronic commerce according to the present invention. The method includes distributing an updateable optical disk 16 to consumers (operation 20), accessing a commodity information server 14 (operation 21), determining whether there is commodity catalog information item to be updated/edited (operation 22), recording data required by the commodity information server 14 on the optical disk 16 (operation 23), and ordering a desired commodity by referring to the commodity catalog information and transporting the ordered commodity to a user (operation 24).

[0037] Specifically, in operation 20, a commodity vendor distributes a catalog having information of commodities sold by the vendor written on the read-only area 16-1 of the optical disk 16 to a user. Here, no separate registration nor administration are necessary. A vendor encrypted key may be additionally used, but is not required in all circumstances. The encrypted key is used to strengthen security during electronic commerce.

[0038] While not shown, it is understood that the commodity catalog information may also be uploaded from the optical disk 16 onto a hard drive or other drive within the user terminal 12 such that the optical disk 16 is not again mounted within the user terminal 12.

[0039] In operation 21, the user (consumer) accesses the vendor's commodity information server 14 through the computer network 10. If the user accesses the vendor's electronic commerce server 14-13 to make a vendee registration, the electronic commerce server 14-13 adds user information to the server database 14-2 to make the user enter an individual password to be used in the purchase, and then records the input password on the server database 14-2. Then, an encrypted key for authorization of the individual password is written on the optical disk 16. By doing so, the password is not divulged, and either an offline purchase and /or an online purchase can be made that includes password verification. Further, the encrypted password can be used for the vendee's identity authentication.

[0040] Also, the consumer's personal data is received and can be utilized for marketing analysis, such as the user's purchase preferences or direct-mail (DM).

[0041] In operation 22, after accessing the commodity information server 14, it is determined whether there is a commodity catalog information item to be updated/edited. If there is a commodity catalog information item to be updated/edited, the commodity catalog information required by the server database 14-2 is written (updated/edited) on the user's optical disk 16 in operation 23.

[0042] Specifically, after accessing the commodity information server 14, the last update date of the optical disk 16 is read . Then, if there is a commodity catalog information item to be updated/edited, the commodity catalog information required by the server database 14-2 is transmitted to be written on the writeable area 16-2 of the user's optical disk 16, to then be displayed in combination with existing catalog information. The

commodity catalog information contains not only three-dimensional information, rather than two-dimensional information, but also function or service information. Thus, new commodities, changed price, commodity inventory, commodity function or status can be updated by comparing the ages of the commodity catalog information on the optical disk 16 and the server 14.

[0043] In operation 24, the commodity catalog information written on the optical disk 16 is retrieved, and a desired product is ordered. During a user's retrieval of the commodity catalog information, the user is offered both the updated and non-updated commodity catalog information. The two types of information (i.e., the updated and non-updated commodity catalog information) are distinctively marked with different colors or blocks, which allows the user to conveniently retrieve the commodity catalog information.

[0044] If the user places an order after retrieval of the commodity catalog information, the basic information, such as a payment instrument or a delivery place, is input to the commodity information server 14, and then the commodity information server 14 requests entry of a credit card number or a number of any other indicated payment instrument that allows electronic payment (e.g., direct access to an account, deductions from credits on user's account with vendee, etc.). Then, a secured transmission route is acquired through the encryption server 14-12 to be transmitted. In this stage, the user's identity is verified. If the identity verification and payment confirmation are done, the vendor proceeds to the next operation of transporting the ordered product and transmitting the related purchase information to the user. The transmitted information is written on the optical disk 16 as the evidence of the sale, which will be necessary for refund or exchange in the event of delivery failure or damage to the commodity.

[0045] As described above, according to the present invention, consumers can easily access the latest commodity catalog information at any time, and purchase products using the latest commodity catalog information securely. Also, the purchasing process is made

faster and the purchase record is automatically filed with the consumer such as on the optical disk, guaranteeing a refund or exchange in the future.

[0046] Also, an increase in sales can be expected for suppliers owing to an easy-to-use, secure purchasing system, which has the purchase record is filed both on the server and with the consumer, and an identity verification can be done easily and accurately so as to reduce commodity loss. Further, labor waste can be reduced in the course of marketing using the user data generated. Since commodity catalog information is distributed online, labor and financial waste can be further reduced.

[0047] Although a few preferred embodiments of the present invention have been shown and described, it would be appreciated by those skilled in the art that changes may be made in this embodiment without departing from the principles and spirit of the invention, the scope of which is defined in the claims and their equivalents.